DOCUMENT RESUME

ED 469 016 SO 032 692

AUTHOR	Blanchard, Fran; Hoofnagle, Sara Griffen
TITLE	Prairie Stamp Activity Guide.
INSTITUTION	Postal Service, Washington, DC.; National Wildlife Federation, Washington, DC.
PUB DATE	2001-00-00
NOTE	19p.; Accompanying poster is not available from ERIC.
AVAILABLE FROM	National Wildlife Federation, 11100 Wildlife Center Dr., Reston, VA 20190. Tel: 800-611-1599 (Toll Free); Fax: 703-438-6061; Web site: http://www.nwf.org.
PUB TYPE	Guides - Classroom - Teacher (052)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	Conservation Education; *Curriculum Enrichment; *Ecology; Elementary Education; Environmental Education; Physical Geography; *Social Studies; United States History; *Wilderness
IDENTIFIERS	Frontier History; *Grasslands; Postage Stamps; *Prairies; United States (Great Plains States)

ABSTRACT

The North American prairie ecosystem is unique. Comprised of tall grass, mixed grass, and shortgrass communities, the acreage this ecosystem once covered is incredible 400 million acres (pre-settlement times), accounting for 40% of North America's landscape. Prairies are home to a great diversity of animal life, such as cottontail rabbits, black-footed ferrets, birds, waterfowl, bison, and pronghorn, along with thousands of insect varieties. This activity guide is based on 2001's Great Plains prairie stamp issue. The guide provides background information on the Great Plains and presents three different lesson sheets for students to complete: (1) Incredible Prairie Picture Show; (2) Survival Scavenger Hunt; and (3) Early Settlers. Activities sheets in the guide give grade level; list skills developed; cite learning objectives; note materials needed; suggest preparation; and outline a step-by-step procedure for classroom implementation. (BT)

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Prairie Stamp Activity Guide.

Sara Griffen Hoofnagle
Fran Blanchard
Sharon Katz Cooper, Editor

US Postal Service
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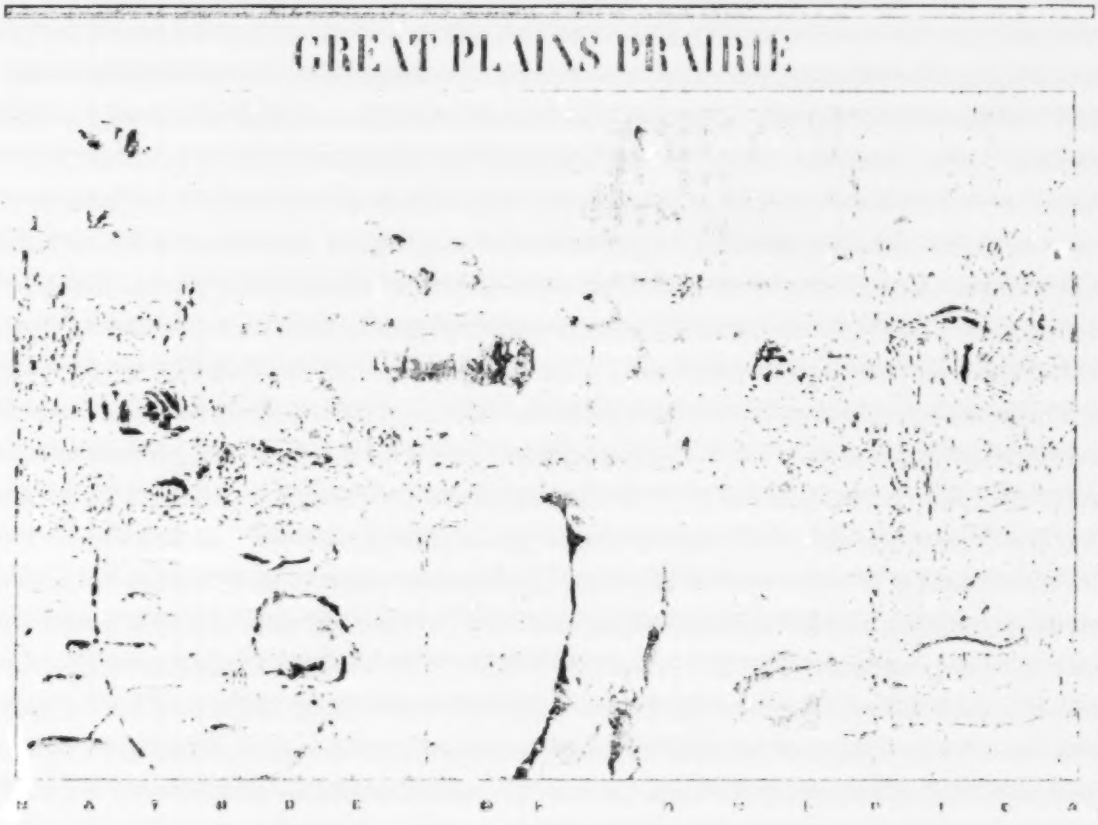
Prairie Stamp Activity Guide



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The National Wildlife Federation is working with the U.S. Postal Service to promote the Great Plains Prairie stamp as a tool to educate and inspire Americans about the beauty of our nation's grasslands and the urgent need to conserve them for people and wildlife.

Background

The Nature of Grasslands

Spacious rolling land and endless sky. Grasses stirred into graceful waves. Winds laced with bird song. Brilliant jewels of color hidden from casual glances. Gaze across a grassland and the vastness might appear monotonous and simple. A closer look reveals that this is a complex ecosystem teeming with examples of the wonderful adaptability of living things. A great diversity of plant and animal life calls the prairie home, having met the challenges of little water, almost constant wind, and temperature extremes.

Grasslands, which began to evolve 70 to 80 million years ago, are characterized as areas where *grasses* are the characteristic vegetation and the ***subsoil*** is dry with seasonal moisture in the upper soil layers. Their evolution was also shaped by

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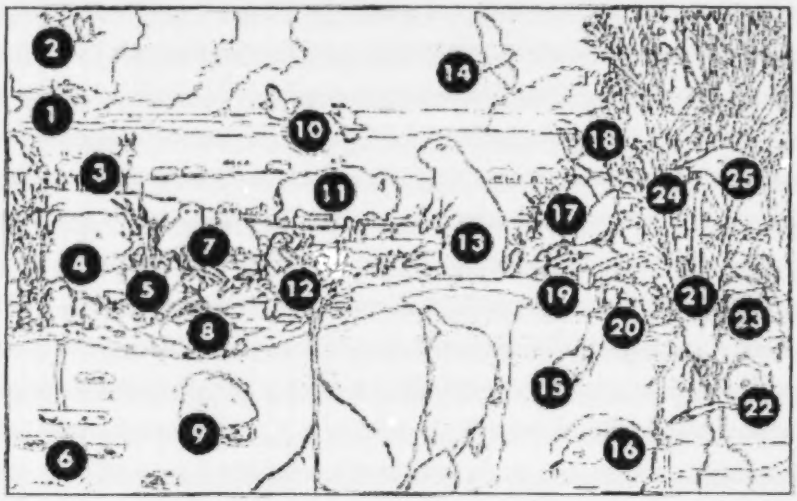
GREAT PLAINS PRAIRIE KEY:



1. Purple Prairie Clover *Dolea purpurea*
2. Canada Goose *Branta canadensis*
3. Pronghorn *Antilocopra americana*
4. Badger *Taxidea taxus*
5. Buffalo Grass *Buchloe dactyloides*
6. Harvester Ant *Pogonomyrmex accidentalis*
7. Burrowing Owl *Athene cunicularia*
8. Eastern Short-horned Lizard *Phrynosoma douglasii brevirostre*
9. Plains Pocket Gopher *Geamys bursarius*
10. Sharp-tailed Grouse *Tympanuchus phasianellus*
11. Bison *Bison bison*
12. Wild Alfalfa *Psoralea tenuiflora*
13. Black-tailed Prairie Dog *Cynomys ludovicianus*
14. Swainson's Hawk *Buteo swainsoni*
15. Plains Spadefoot *Spea bombifrons*
16. Prairie Rattlesnake *Crotalus viridis viridis*
17. Painted Lady Butterfly *Vanessa cordui*
18. Prairie Coneflower *Ratibida columnifera*
19. Prairie Wild Rose *Rose arkansana*
20. Dung Beetle *Canthan pifularius*
21. Little Bluestem *Schizachyrium scoparium*
22. Ord's Kangaroo Rat *Dipodomys ordii*
23. Two-striped Grasshopper *Melanoplus bivittatus*
24. Camel Cricket *Ceuthophilus palidus*
25. Western Meadowlark *Sturnella neglecta*

periodic fires and grazing animals that resulted in the establishment of large areas of grassland on all of the continents except Antarctica. A quarter of the Earth's land surface is covered by this rapidly vanishing ecosystem.

The North American prairie ecosystem is unique. Comprised of tallgrass, mixed grass, and shortgrass communities, the sheer acreage this ecosystem once covered is incredible – 400 million acres (pre-settlement times), accounting for 40% of North America's landscape.

Grasslands Worldwide

Worldwide, different cultures have given many names to grasslands: in Asia they are the ***steppes***, in South America they are called ***pampas***, in Africa they are the ***veld*** or ***savannahs***, and in North America they are generally called ***prairie*** or ***plains***. By whatever name they are known, grasslands share some common traits. In general, grasslands:

- ❑ are dominated by grasses
- ❑ occur on flat or rolling terrain
- ❑ have similar soils (***alkaline***, lots of ***organic matter***, very fertile, and fine-grained)

- ❑ have soil that is almost completely covered by vegetation
- ❑ invoke a feeling of wide open space
- ❑ commonly have fires and high winds (winds lead to high evaporation rates and the spread of fire)

Precipitation tends to be concentrated in peak periods followed by periods of drought and may vary greatly from one year to the next.

North American Grasslands

There are several types of grasslands in North America, including the ***intermountain*** or ***palouse***, ***desert***, ***California***, and ***Eastern grasslands***. This guide will concentrate on the characteristics of the prairie that extends across the relatively flat land bounded by the Rocky Mountains on the west and the Appalachian Mountains on the east. This prairie ***ecosystem*** is divided into tall grass, mixed grass, and shortgrass ***communities*** that occur along a gradient of decreasing moisture from east to west. Although somewhat arbitrary, these classifications describe how the vegetation gradually changes between the ecosystem's eastern and western limits.

Prairie Communities

Although the distinctions between different prairie communities may be blurred, there are some general characteristics of each which help to distinguish them. The typical plants which live in each community are ***indicators***, or markers, for that community. Table 1 lists some typical characteristics of the tallgrass, mixed grass, and shortgrass prairie communities.

Table 1 **PRAIRIE COMMUNITY CHARACTERISTICS**

	TALLGRASS	MIXED GRASS	SHORTGRASS
Average Precipitation (per year)	63.5cm to 99 cm	35.6 cm to 58.4 cm	25.4 cm to 38.1 cm
Approximate Height of Tallest Grasses	over 1.5 m	.6 m to 1.2 m	under .6 m
Common Grasses	big bluestem Indian grass	little bluestem sideoats grama	blue grama buffalo grass
Depth of Lime Layer	no layer–leeched into groundwater	.91 m to 1.83 m	less than .61 m

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Prairie Wildlife

The North American Serengeti

Prairies are home to a great diversity of animal life. Common animals, such as cottontail rabbits, abound, while the highly endangered black footed ferret is also a resident of this ecosystem. The majority of the continent's waterfowl populations live here and prairies provide stop-over grounds for many migrating bird species. Thousands of insect species as well as the largest and fastest North American mammals–the bison and the pronghorn, respectively–can be found on prairies. In addition, all three prairie communities once supported grizzly bear and gray plains wolf populations.

A Home on the Range

All of these prairie animals, and humans as well, must meet the same basic needs–food, water, shelter, and space to raise young–in order to survive. The place that an animal finds all the things it needs to live is known as ***habitat***. Put in human terms, an area where a person can buy or obtain food, work, go to school, and raise children is human habitat. Good quality habitat, where an animal can easily meet its needs, is the single most critical thing to sustaining healthy wildlife populations. Although animals can survive in poor quality habitats, the stresses of these marginal areas make survival more difficult.

While the basic needs for every animal are the same, each animal uses its resources in different ways to meet these basic needs. For some animals, a broad area can serve as habitat; for others suitable habitat may be limited to a more specific area. For example, a pronghorn needs habitat with plants to eat and open space to raise its young. Shelter comes from its fur coat, and water can be obtained from the plants it eats, if there is no open water available. It is evident that habitat for pronghorn covers nearly all of shortgrass and mixed grass prairies, A great plains toad, on the other hand, needs habitat that includes insects to eat, soft mud in which to dig a shelter, and water in which to lay eggs and raise its young. Therefore, the habitat for the toad is limited to *riparian* corridors along streams, potholes, creeks, and ponds.

Animal Adaptations

Prairie animals, like plants, have to deal with a set of determining factors: temperature extremes, fire, precipitation, wind, danger from predators, and exposed landscapes. And like plants, they have developed a range of adaptations to live with these conditions. For example, many animals are able to get all of the moisture they need from the plants they eat rather than relying on being able to find open water to drink. In addition, the following adaptations help prairie animals to thrive in an often harsh environment:

- **Burrows**, underground holes used by animals, allow animals to escape from fire danger, temperature extremes, and some predators. Prairie dogs, woodchucks, ground squirrels, weasels, mice, voles, coyotes, and badgers dig their own burrows; snakes, burrowing owls, and black-footed ferrets often

move into prairie dog burrows.

- Speed helps animals catch prey or evade predators on the open plains. The swift fox can run 60 km/hour (37 m.p.h.), the coyote and the jackrabbit can run 64 km/hour (40 m.p.h.), and the pronghorn reach speeds of over 86 km/hour (53 m.p.h.), faster than any other North American mammal.
- **Group living** offers protection to prairie dogs, bison, pronghorn, and white-tailed deer. In part, this ***gregarious*** social behavior is another way for wildlife to defend themselves in areas where there is little cover.
- **Nesting on the ground** under shrubs protects birds such as longspurs, meadow larks and lark buntings from predators and summer heat.
- **Camouflage**, or beneficial coloration, allows some species to blend in with their surroundings, making them nearly invisible to pursuers. Many prairie animals, including woodchucks, jack rabbits, and prairie dogs are the color of dried prairie grasses.
- **Keen eyesight** is a tremendous advantage to prairie animals–the ability to effectively scan the open landscape for danger provides those animals a "leg up" on predators. Pronghorn eyesight is said to rival a pair of 8X binoculars.
- **Migration,** or movement from one habitat to another, is a survival strategy practiced not only by bird species, but bison and insects as well. Migration makes it possible to find enough food to survive when conditions change.

Ecological Niches

Every plant and animal on the prairie has its own ecological ***niche***–the unique role or set of relationships to other community members.

An ecosystem with many different niches reduces competition between species, allowing many different species to survive in the same area. Each prairie species has its own specific niche. Pronghorn and bison are both important prairie grazers, found in the same prairie communities, but co-exist well because pronghorn feed heavily on sage, while bison graze almost exclusively on grass. Hawks and owls both eat small mammals, but hawks are daytime hunters while owls are usually nocturnal. These two different hunting strategies allow both birds to eat small mammals without depleting the populations, since different small mammals are out during the day and at night. Consequently, in both cases, the two animals can co-exist in the same area without competing for limited food resources.

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The Incredible Prairie Picture Show

ACTIVITY

Summary

Students will create a prairie ecosystem mural.

Grade Level:
K – 8

Time:
2 hours

Subjects:
Science, art

Skills:
classification, comparison, construction, description, research

Learning Objectives:
Students will be able to:

- gauge their understanding of the prairie ecosystem.
- identify several basic characteristics of the prairie ecosystem.
- recognize the tremendous species diversity of the prairie ecosystem.
- identify several commonly known prairie species.

Materials

- Map: America's Grasslands (see page 8)
- Prairie stamp art pane
- nature magazines (e.g. Your Big Backyard, Ranger Rick, National Wildlife, National Geographic)
- art materials: glue/paste, butcher paper, scissors, crayons, pencils, construction paper

Background

As a grassland ecosystem, the dominant vegetation of the prairie is grass. However, the diversity of plant and animal species is astounding, reaching beyond the well known mammal species – the buffalo and the black-footed ferret – to the mountain plover, the tiger salamander, and countless grass and insect species. On an acre of prairie, there may be a million animals that eat grasses and/or plants. This activity will allow students to use their prior and newly found knowledge to create their own vision of the prairie.

Preparation

Gather nature magazines and butcher paper.

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Procedure

1. Ask students: What do think a prairie looks like? What are its main characteristics? Have students brainstorm and make a list on a board.

2. Have students go through nature magazines to find pictures of prairies and their animals. Share with them the Great Plains Prairie stamp artwork. Ask, How many different kinds of animals and plants do you see here? How many kinds of habitats are represented?

3. Lead a discussion with your students, using some of these questions, and others you may think of:

- ❑ How is a prairie different from a forest?
- ❑ Where are prairies found in the U.S.? (Show Map 1 or have students do their own research.)
- ❑ What makes up a prairie? What lives in a prairie?

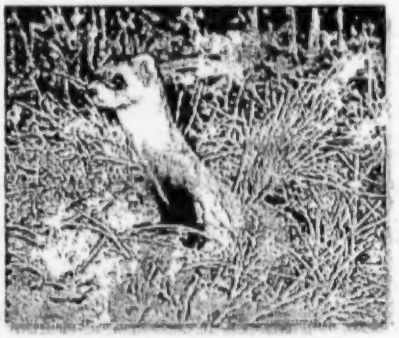
- How is it important to people? To animals?
- Have humans changed the prairie? If so, how?
- Have you ever visited a prairie? Where? What do you remember about it?

4. Hang a large piece of butcher paper along a long wall in the classroom.

5. Introduce or review the following terms: ecosystem (*the set of interactions between living and non-living things and their environment*), community (*a group of organisms*), habitat *(a place where an organism can meet its basic needs for food, water shelter, and space to raise young.*)

6. Tell the students that, as a class, they will now create an "Incredible Prairie Picture Show," i.e. a prairie ecosystem mural. The mural should reflect the landscape of the prairie and its plant and animal species.

7. Divide students into small groups and have each group choose one of the animals or plants from the prairie stamp panel to focus on. Instruct students to first develop a list of questions they have about their organism (e.g., what kind of habitat does it use, what does it eat, what eats it, how does it



reproduce, how many young does it have, etc.). Then, using magazines, books, and the internet, students should conduct research to find out all they can about their organism.

8. Once research has been accomplished, ask students to draw or cut out magazine pictures of their organism and those related to it.

9. Once all groups have finished, have each group take a turn to present their findings to the rest of the class. The presenting group should show where they propose to place their artwork on the class mural. The rest of the class should be encouraged to ask questions of the presenting group.

10. Once all groups have added their components to the mural, ask the class to identify connections between the plants and animals represented on the mural. They could draw arrows connecting predators to prey, or between other animals that depend on each other. Ask the students if any components are missing. Have students come up and add in any missing pieces to the mural.

11. Conclude with a class discussion of the completed mural. Some sample questions:

- Does your prairie ecosystem mural incorporate humans? Why or why not?
- Do you think there are other organisms that should have been included?
- Are there more prairie animals than plants included in your mural?
- Why do you think that is?
- Could the prairie animals exist without the plants?
- How do you think the prairie has changed over time?
- Would your mural look different if it had been created 100 years ago?
- What might it look like 100 years from now?

ACTIVITY 11

WORKSHEET 1

America's Grasslands

10

Survival Scavenger Hunt

ACTIVITY 2

Summary:
Students learn about prairie plant adaptations through a scavenger hunt.

Grade levels:
3 – 8

Time:
45 minutes

Subjects:
Science, Math, and Art

Skills:
classification, comparison, description, observation

Learning Objectives:
Students will be able to:

- define the term adaptation."
- identify adaptations plants exhibit in the prairie grasslands ecosystem.
- understand how those plant adaptations allow plants to survive and thrive

Materials:

- notebooks, or clipboards and tracing paper
- pencils
- small bags (one for each small group) including:
  - piece of waxed paper (= waxiness, drought adaptation)
  - piece of fur (= hairiness, drought adaptation)
  - thin green ribbon (= narrow and/or curled leaves, drought and wind adaptation)
  - doily or "snowflake" cut paper piece (= finely divided leaves and/or low lying plant, drought adaptation)
  - sandpaper (= rough leaves, grazing and drought adaptation)
  - straw (= tubular grass-like structure, wind adaptation)
  - quills (= spines, grazing adaptation)
  - velcro (= stickers, grazing adaptation and seed dispersal method)
  - cottonball "fuzz" (=seed dispersal method)

Background:

Faced with temperature extremes, water availability, high winds, fire, and grazing animals, prairie plants have evolved a variety of adaptations to help them stay alive and reproduce in the prairie ecosystem. Many adaptations exhibited by prairie plants serve "double duty," reducing the impact of two or more environmental conditions. For example, leaf hairs 1) reflect sunlight which decreases the rate of evaporation, and 2) increase leaf surface area to "break up" the wind, lessening its evaporative power.

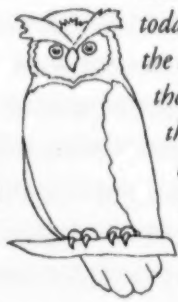
Due to scarce water and high temperatures in the prairie ecosystem, many prairie plants share strategies to cope with the dry conditions. Root systems exploit limited moisture, leaves with little surface area slow evaporation, round, hollow stems are strong and require less water to maintain, slender growing profiles minimize water use, and hard *seed coats* protect the *embryo* from desiccation. This activity will help students gain an understanding of some of these adaptations.

Procedure:

1. Review the term adaptation with students. An adaptation is any characteristic that helps an animal to survive in its habitat.

2. Lead a discussion, asking the students:

❑ How have you adapted to your environment, i.e. found ways (strategies) to live with the weather, animals, soils, etc? (*In today's world, humans have the ability to manipulate their environment so that they don't have to adapt to certain given conditions; we can, essentially, create our own conditions.*)



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- ❑ Do plants and animals interact with their environment in the same manner humans do?
- ❑ What are some environmental conditions plants and animals have to adapt to in the prairie grasslands?
- ❑ Are there any unique environmental conditions prairie grassland plants must adapt to?
- ❑ What are some ways plants might respond to those environmental conditions?

3. Divide your class into groups (2 - 3 students per group) and then hand each group a paper bag filled with the "adaptation objects" listed above. Explain that these bags contain objects representing different prairie plant adaptations.

4. Ask each group to determine what plant adaptation each object in the bag represents. Before they go outside and find "matching" adaptations, they need to come to consensus about what each object represents to them.

5. Bring them outside, to an area with a large number of plants. Set boundary limits, where they can roam and look, in the schoolyard/ prairie/field. Once boundaries have been established, ask them to identify as many different plants as they can find that exhibit the adaptations represented by the objects in the bag.

6. Students should sketch the plant and label the adaptation. They should also note where that particular plant was found – near a stream, on an east facing slope, for example – be as specific as possible.

7. Encourage groups to try to find additional adaptations (those not represented by the objects) to share with the group.

8. Before the students share their findings, have each group share their object definitions, i.e. what adaptation did each object in the bag represent to them?

9. Lump common definitions together and ask students to count the number of plants they found that exhibit each adaptation. Ask each group to share their findings.

10. Wrap up with a discussion about students' findings:

- Which adaptation(s) were most commonly exhibited? Why do you think you found that particular adaptation more frequently than others?
- Do you think that where the plant was found had any effect on what adaptations it exhibited?
- Did you notice, or think of, any other adaptations that were not covered by your objects? (Eg. wind-borne seeds, roots, etc.)

13

The Early Settlers

ACTIVITY 3

Summary:
Students gain a better understanding of the challenges faced by pioneers through literature and roleplay.

Grade levels:
4 – 8

Time:
60 minutes

Subject:
Social Studies, Language Arts

Skills:
analysis, application, comparison, description, research

Learning Objectives:
Students will be able to:

- understand the major reasons why people moved to the Great Plains during the 19th century
- identify some of the challenges and hardships faced by early settlers on the Great Plains
- recognize the similarities and differences between modern day life and 19th century Great Plains life

Materials:
- "What's Changed?" worksheet
- a shoe box for every student

Recommended books:
- *Little House on the Prairie*, Laura Ingalls Wilder. 1999. New York: Harper Collins
- *Wagon Wheels*. Barbara Brenner. 1984. New York: Harper Collins (K – 3)
- *Sarah, Plain and Tall.* Patricia MacLachlan. 1985. Harper and Row (2 – 5)
- *My Prairie Year*. Brett Harvey. 1986. Holiday House, Inc. New York
- *Pioneer Women: Voices from the Kansas Frontier.* Joanna Stratton. Simon and Schuster; New York;1981
- *Pioneer Children on the Journey West.* Emmy E. Werner. 1995. Westview Press; Boulder/San Francisco/Oxford
- *Sod Walls*. Roger Welsch. J & L Lee Co.; Lincoln, NE; 1991
- *Prairie Visions: The Life and Times of Solomon Butcher* (children's book) Pam Conrad Harper Trophy (division of Harper Collins Publishers); New York; 1991
- *. . .If You Traveled West in a Covered Wagon* (children's book) Ellen Levine, Scholastic, Inc.; New York/Toronto/London/Auckland/Sydney;1986

Background

The 19th century Great Plains pioneers endured numerous hardships on their move west and subsequent settlement. So, why did they go west? Many forces fueled western settlement, including *manifest destiny* (the

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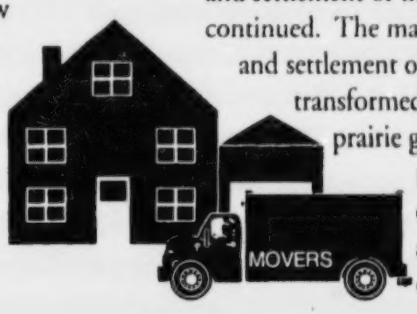
feeling that the country should spread as far west as possible), the *Homestead Act of 1862*, the "overcrowded" eastern seaboard, the displacement of people (including newly freed slaves) after the Civil War, gold, and the lure of wide open spaces, to name just a few.

Like Native Americans, and the plants and animals of the prairie, the lifestyle of the 19th century prairie pioneer was shaped by the landscape and climate. Pioneers had to adapt to their environment – invent new devices and use available resources – to survive on the prairie. The early pioneer dwellings, *sod houses*, are prime examples of "using what is available," in this case prairie sod. "Soddies" were usually one room houses built from tough slabs of prairie sod. "Breaking the land" to plant crops was a tedious and strenuous chore because prairie sod is made up of a thick network of plant roots and soil. In 1846 John Deere invented a steel plow with a surface that prevented dirt from sticking to it, making it easier to convert prairie to cropland.



Pioneer life was a hard life, especially when viewed in contrast to the relatively "luxurious" lifestyle of those in settled (eastern) communities. Neighbors were now miles away rather than across the street. Sisters, uncles, parents, nieces, in-laws, and other family members were hundreds, and sometimes thousands, of miles from the prairie lands now called home. Libraries, post offices, and churches did not exist when people first moved west, and may not have been established for some years after settlement. The muslin "ceiling" of sod homes often caught snakes and insects who lived in your roof. Schools and doctors were few, water was relatively scarce, bison chips were used as fuel, and a trip to the general store often took several days. Crops were periodically decimated by drought, fire, or grasshoppers; many families went broke and had to abandon their land. However, the steady migration and settlement of the plains continued. The mass migration and settlement of the plains transformed the land – prairie grasses were replaced by crops of corn and wheat, cattle replaced bison, and Native Americans were forced onto smaller and smaller tracts of land. By 1890 the U.S. government officially declared the last frontier "closed."

Procedure:

1. Ask your class if any of them, and their families, have ever moved. Was the move down the block, across town, to a different state, to a different coast?

2. Ask those who have moved "Why?" Why did they and their families move? Responses might include: to be closer to other family members, for parent's job opportunities, for better schools, and so on.

3. Ask all students, including those who haven't ever moved, what questions they might ask their parents and siblings about the place to which they are moving. Record student questions/ideas. Depending on the age of the group, students may be (have been) very involved with their family and its decision to move. Possible questions include:

- ❑ What will the school I go to look like?

- ❑ How far from our house will the school be?
- ❑ Do we get to bring our pet (dog, cat, tarantula (!), etc.) with us?
- ❑ Will I be able to visit my friends?
- ❑ Will there be sports teams I can join?
- ❑ Where is the closest shopping mall?

4. Ask the students what they might feel if they had to move to a state or city they had never seen.

5. Read aloud, or assign reading to older students from a fictional or actual account of 19th century life on the Great Plains. (See "Recommended Books" under Materials section.)

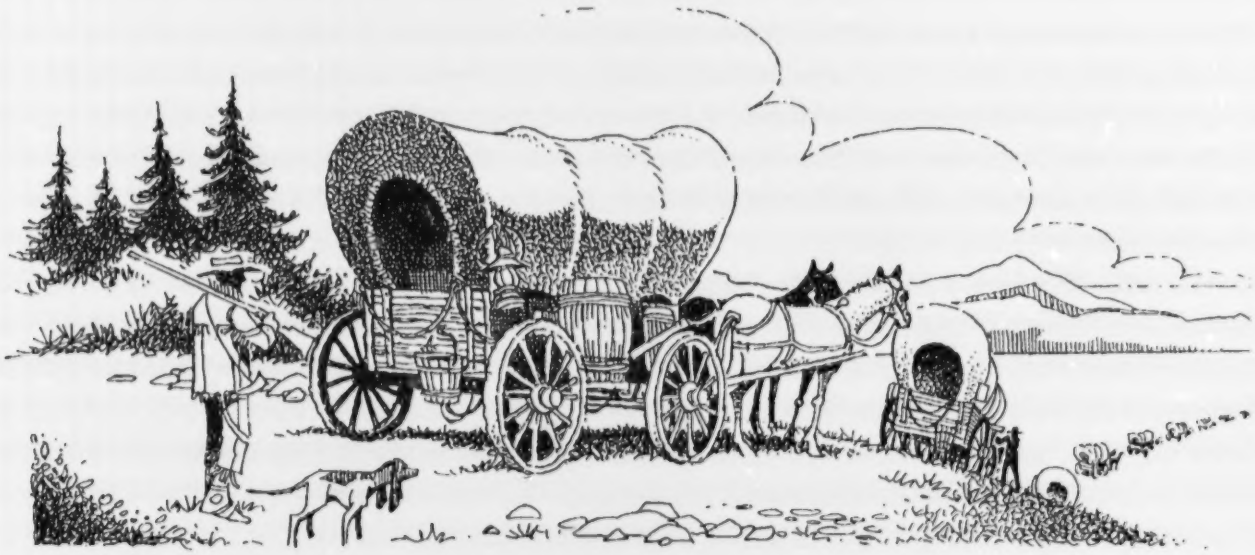
6. Using examples or characters from the story, have the students use the comparison worksheet to identify how their life is similar to and different from the life of the early settlers.

7. Divide the students into groups of three. Ask them to pretend that they are brothers and sisters while imagining the following scenario.

The year is 1875, ten years after the end of the Civil War. Your family is living on a small New England farm near Boston. While eating dinner, your father mentions that he just received a letter from your aunt and uncle who moved onto the Great Plains three years ago. They have asked your family to leave the East and join them on the prairie. Your Dad is excited about moving west. He says that he has heard that under the 1862 Homestead Act, your family can claim 160 acres of fertile farmland at no cost. This would be much bigger than your current farm. Although your mother is concerned about living far away from schools, churches, and friends, she misses your aunt and would like to live near her again.

8. Ask the students to think quietly about how they might react to the above situation. Next, have the groups roleplay how an after dinner conversation with their brothers and/or sisters might sound after learning about the potential move. After several minutes ask the groups to share what they learned, what questions were raised, what fears were expressed from their conversations.

9. Continue the scenario by telling the students that their "parents" have decided to make the move. Since they are moving their entire household, space is tight and each sibling can only bring those personal items that fit into a "travel box." (Note: Parents would bring



clothing and household items, the travel box would include only other personal things.)

10. Ask each student to bring in a shoe box (their modern day travel box) filled with the items they would take on their journey west. Give students a couple of days to think about and assemble their travel box.

11. Once all of the students' travel boxes are completed and brought in, display them around the room a few at a time so all students can view them. Another option is to have the students stand next to his/her travel box and explain why he/she chose to bring the items included in the box.

Extensions

- Using the "What's Changed?" worksheet, ask students to predict how those categories will remain the same or change for people/society in the 23rd century.
- Ask students to research inventions that affected life on the Great Plains during the middle and latter half of the 19th century. (Examples of topics might include John Deere's steel plow, barbed wire) Then, have students speculate how, and if, those inventions have had any impact on their lives.
- Ask students to write a story about traveling west – include the family's motivation for moving, the things they would take with them, what they expect to find.
- Ask students to write letters to folks who are still "back East" after they get to their new "prairie home" describing the journey and what they found when they got there.
- Have students write mock journal entries for the trip or for the first year of homesteading.

ACTIVITY

WORKSHEET

What's changed?—A closer look at pioneer and modern life

Directions: After reading a book or a part of a book about 19th century life on the Great Plains, compare and contrast your daily routines to pioneer life.

	19th Century Life	21st Century Life
house structure		
methods of travel		
daily chores		
food		
food preparation (cooking)		
family life		
friends		
shopping		
religion		
play		
entertainment		
unforeseen dangers		
schooling		

National Wildlife Federation Resources for Educators

Prairie/Grasslands Educational Kit

This activity guide is only a brief sample of NWF's Prairie/Grasslands educational kit. The kit contains detailed background information, more than 20 complete interdisciplinary lesson plans correlated to national standards of learning, and a how-to guide for creating your very own Schoolyard Habitats project and certifying it by the National Wildlife Federation. For more information or to order the complete kit in the 2001-02 school year, contact National Wildlife Federation at 1-800-247-7387 or visit our website at www.nwf.org.

Beyond Prairies

National Wildlife Federation also produces classroom curricula kits and teacher workshops on a number of exciting topics including: habitats, how to create a schoolyard habitats project, endangered species, wetlands, water, smart growth (urban sprawl), northern forests, wolves, and bears. For information on workshops and purchasing curricula, contact us.

National Wildlife Federation produces three award-winning children's magazines:

Ranger Rick (for ages 7-12)

Your Big Backyard (for ages 3-7)

Wild Animal Baby (for ages 1-3)

To order, call 1-800-611-1599 or order on-line at www.nwf.org

PRAIRIE STAMP ACTIVITY GUIDE CREDITS

WRITERS:

Fran Blanchard,
Plains Conservation Center

Sara Griffen Hoofnagle,
National Wildlife Federation

EDITOR:

Sharon Katz Cooper,
National Wildlife Federation

U.S. Department of Education
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